



September 20, 2019

Mr. [Redacted]  
Environmental Restoration, LLC  
1666 Fabick Drive  
Fenton, MO 63026

## Certificate of Analysis

Project Name:	<b>Soil Samples</b>	Workorder:	<b>3056717</b>
Purchase Order:		Workorder ID:	<b>Shiloh Chande Rd.</b>

Dear [Redacted]

Enclosed are the analytical results for samples received by the laboratory on Tuesday, September 10, 2019.

The [Redacted] is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact [Redacted]

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the [Redacted]

[Redacted]

[Redacted]

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*

Project Coordinator

Non responsive due to revised scope



## SAMPLE SUMMARY

Workorder: 3056717 Shiloh Chande Rd.

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3056717001	Anea 07	Solid	8/28/2019 10:40	9/10/2019 09:51	Non responsive due to revised scope
3056717002	Anea 08	Solid	8/28/2019 11:40	9/10/2019 09:51	
3056717003	Anea 09	Solid	8/28/2019 14:30	9/10/2019 09:51	
3056717004	Anea 11	Solid	8/28/2019 16:35	9/10/2019 09:51	

Non responsive due to revised scope



## SAMPLE SUMMARY

Workorder: 3056717 Shiloh Chande Rd.

### Notes

- Samples collected by [redacted] personnel are done so in accordance with the procedures set forth in the [redacted] Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

### Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits



## ANALYTICAL RESULTS

Workorder: 3056717 Shiloh Chande Rd.

Lab ID: **3056717001**

Date Collected: 8/28/2019 10:40

Matrix: Solid

Sample ID: **Anea 07**

Date Received: 9/10/2019 09:51

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Moisture	12.8		%	0.1	S2540G-11			9/11/19 09:50	Non responsive	
Total Solids	87.2	1	%	0.1	S2540G-11			9/11/19 09:50		
TCLP METALS										
Arsenic, Total	ND		mg/L	0.14	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:44	A1	
Barium, Total	ND		mg/L	2.8	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:44	A1	
Cadmium, Total	1.7		mg/L	0.011	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:44	A1	
Chromium, Total	ND		mg/L	0.028	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:44	A1	
Lead, Total	2.8		mg/L	0.033	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:44	A1	
Selenium, Total	ND		mg/L	0.11	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:44	A1	
Silver, Total	ND		mg/L	0.022	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:44	A1	

Non responsive due to revised scope

Project Coordinator

Non responsive due to revised scope



## ANALYTICAL RESULTS

Workorder: 3056717 Shiloh Chande Rd.

Lab ID: 3056717002

Date Collected: 8/28/2019 11:40

Matrix: Solid

Sample ID: Anea 08

Date Received: 9/10/2019 09:51

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										Non responsive
Moisture	9.5		%	0.1	S2540G-11			9/11/19 09:50		
Total Solids	90.5	1	%	0.1	S2540G-11			9/11/19 09:50		
TCLP METALS										
Arsenic, Total	ND		mg/L	0.14	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:48		A1
Barium, Total	ND		mg/L	2.8	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:48		A1
Cadmium, Total	1.0		mg/L	0.011	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:48		A1
Chromium, Total	ND		mg/L	0.028	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:48		A1
Lead, Total	18.5		mg/L	0.033	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:48		A1
Selenium, Total	ND		mg/L	0.11	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:48		A1
Silver, Total	ND		mg/L	0.022	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:48		A1

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Project Coordinator

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## ANALYTICAL RESULTS

Workorder: 3056717 Shiloh Chande Rd.

Lab ID: **3056717003**  
Sample ID: **Anea 09**

Date Collected: 8/28/2019 14:30 Matrix: Solid  
Date Received: 9/10/2019 09:51

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
<b>WET CHEMISTRY</b>										
Moisture	13.8		%	0.1	S2540G-11			9/11/19 09:50		
Total Solids	86.2	1	%	0.1	S2540G-11			9/11/19 09:50		
<b>TCLP METALS</b>										
Arsenic, Total	ND		mg/L	0.14	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:51		A1
Barium, Total	ND		mg/L	2.8	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:51		A1
Cadmium, Total	0.40		mg/L	0.011	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:51		A1
Chromium, Total	ND		mg/L	0.028	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:51		A1
Lead, Total	6.0		mg/L	0.033	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:51		A1
Selenium, Total	ND		mg/L	0.11	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:51		A1
Silver, Total	ND		mg/L	0.022	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:51		A1

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ANALYTICAL RESULTS

Workorder: 3056717 Shiloh Chande Rd.

Lab ID: 3056717004

Date Collected: 8/28/2019 16:35

Matrix: Solid

Sample ID: Anea 11

Date Received: 9/10/2019 09:51

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
<b>WET CHEMISTRY</b>										
Moisture	13.1		%	0.1	S2540G-11			9/11/19 09:50		
Total Solids	86.9	1	%	0.1	S2540G-11			9/11/19 09:50		
<b>TCLP METALS</b>										
Arsenic, Total	ND		mg/L	0.14	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:55		A1
Barium, Total	ND		mg/L	2.8	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:55		A1
Cadmium, Total	0.27		mg/L	0.011	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:55		A1
Chromium, Total	ND		mg/L	0.028	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:55		A1
Lead, Total	3.6		mg/L	0.033	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:55		A1
Selenium, Total	ND		mg/L	0.11	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:55		A1
Silver, Total	ND		mg/L	0.022	SW846 6010C	9/19/19 15:35	SXC	9/20/19 08:55		A1

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## ANALYTICAL RESULTS

Workorder: 3056717 Shiloh Chande Rd.

### PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
<b>3056717001</b>	1	Anea 07	S2540G-11	Total Solids
Analyte was analyzed past the 7 day holding time.				
<b>3056717002</b>	1	Anea 08	S2540G-11	Total Solids
Analyte was analyzed past the 7 day holding time.				
<b>3056717003</b>	1	Anea 09	S2540G-11	Total Solids
Analyte was analyzed past the 7 day holding time.				
<b>3056717004</b>	1	Anea 11	S2540G-11	Total Solids
Analyte was analyzed past the 7 day holding time.				

Non responsive due to revised scope



Non responsive due to revised scope



## ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3056717 Shiloh Chande Rd.

Lab ID	Sample ID	Analysis Method	Prep Method
3056717001	Anea 07	S2540G-11	
3056717001	Anea 07	SW846 6010C	SW846 3015
3056717002	Anea 08	S2540G-11	
3056717002	Anea 08	SW846 6010C	SW846 3015
3056717003	Anea 09	S2540G-11	
3056717003	Anea 09	SW846 6010C	SW846 3015
3056717004	Anea 11	S2540G-11	
3056717004	Anea 11	SW846 6010C	SW846 3015

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01

**F**

Friday, September 20, 2019 10:39:51 AM

## Condition of Sample Receipt Form

Client: <u>FWW Administration</u>	Work Order #: <u>3056717</u>	Initials: <u>[Redacted]</u>	Date: <u>9/10/19</u>
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1. Were airbills / tracking numbers present and recorded?.....	NONE	<input checked="" type="radio"/> YES	<input type="radio"/> NO
Tracking number: <u>7761 8757 2367</u>			
2. Are Custody Seals on shipping containers intact?.....	<input checked="" type="radio"/> NONE	<input type="radio"/> YES	<input type="radio"/> NO
3. Are Custody Seals on sample containers intact?.....	<input checked="" type="radio"/> NONE	<input type="radio"/> YES	<input type="radio"/> NO
4. Is there a COC (Chain-of-Custody) present?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
5. Are the COC and bottle labels complete, legible and in-agreement?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
5a. Does the COC contain sample locations?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
5b. Does the COC contain date and time of sample collection for all samples?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
5c. Does the COC contain sample collectors name?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
5d. Does the COC note the type(s) of preservation for all bottles?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
5e. Does the COC note the number of bottles submitted for each sample?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
5f. Does the COC note the type of sample, composite or grab?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
5g. Does the COC note the matrix of the sample(s)?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
6. Are all aqueous samples requiring preservation preserved correctly?.....	<input checked="" type="radio"/> N/A	<input type="radio"/> YES	<input type="radio"/> NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
8. Are all samples within holding times for the requested analyses?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.).....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
10. Did we receive trip blanks ( applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?.....	<input checked="" type="radio"/> N/A	<input type="radio"/> YES	<input type="radio"/> NO
11. Were the samples received on ice?.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
12. Were sample temperatures measured at 0.0-6.0°C.....		<input checked="" type="radio"/> YES	<input type="radio"/> NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below.....		<input type="radio"/> YES	<input checked="" type="radio"/> NO
13a. Are the samples required for SDWA compliance reporting?.....	<input checked="" type="radio"/> N/A	<input type="radio"/> YES	<input type="radio"/> NO
13b. Did the client provide a SDWA PWS ID#?.....	<input checked="" type="radio"/> N/A	<input type="radio"/> YES	<input type="radio"/> NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?.....	<input checked="" type="radio"/> N/A	<input type="radio"/> YES	<input type="radio"/> NO
13d. Did the client provide the SDWA sample location ID/Description?.....	<input checked="" type="radio"/> N/A	<input type="radio"/> YES	<input type="radio"/> NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?.....	<input checked="" type="radio"/> N/A	<input type="radio"/> YES	<input type="radio"/> NO

  

Cooler #:							
Temperature (°C):	<u>5</u>						
Thermometer ID:	<u>405</u>						
Radiological (µCi):							

COMMENTS (Required for all NO responses above and any sample non-conformance):